

REGIONAL TRENDS OF MALARIA CASES IN ADAMAWA STATE

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ABSTRACT

Malaria has been a long life-threatening parasitic disease transmitted by female anopheles mosquitoes. Malaria continues to be an economic burden and a great threat globally and almost impossible to eradicate for the past six decades. It is one of the leading causes of illness and death in the tropical part of the world. This study look at the regional trends of malaria cases in Adamawa State. The data were extracted from reported cases of malaria in some selected (12) local government areas of the State between 2008 and 2012. The total number of cases reported was 584980 in the local government areas under study. The study revealed that there was a fluctuating trend occurrence of malaria cases observed in the study areas. Yola North region recorded the highest reported malaria with 202,834 cases, followed by Jada region, Ganye region, Mubi South region, Numan region, Maiha region, Mubi North region, Gombi region, Girei region, Song region, Guyuk region and Toungo region reported the lowest with 3,345 cases. Also, the peak malaria case was observed during 2008 in Yola-North region, while minimum malaria case was observed in Toungo region The study therefore recommends that, there should be malaria control programs which will have a significant impact on the overall control of malaria in the regions and sanitation on malaria cases in some of the selected local government area in the State.

Key Words: Trend, Malaria, Prevalence, Region.

1. Introduction

Malaria has been a long life-threatening parasitic disease transmitted by female anopheles mosquitoes. It is one of the leading causes of illnesses and death in the world. It is the leading cause of death in children under the age of 5 years and pregnant women in developing countries (Martens and Hall, 2000). In 2010, there was an estimated 216 million cases of malaria worldwide, of which 91% were due to *Plasmodium falciparum*. The vast majority of cases (81%) were in the African Region followed by South-East Asia and, Eastern Mediterranean Regions by World Health Organization (WHO), (WHO, 2011). The disease remains one of the most important causes of human morbidity and mortality with enormous medical, economic and emotional impact in the world.

Malaria has gained much recognition in Africa in recent years with the World Health Organization main target of eradication and therefore developing roadmaps in 2012 for prevention, control, and elimination (WHO, 2013). Report by WHO indicates that malaria among the infectious diseases is attributed to about nine million deaths annually and it is one of the infectious diseases of poverty believed to be prevalent among poorer communities (WHO, 2012). This shows that the association between poverty with lack of basic amenities and malaria is often interlinked. According to WHO, there are an estimated 35 million disability-adjusted life years (DALYs) attributed to malaria each year, (Laxminarayan and Ashford, 2008).

Due to the high level of malaria transmission in Nigeria, every pregnant woman is at risk of malaria infection, the effect of which can cause little or no damage to severe life threatening damages like spontaneous abortion, stillbirths, premature delivery, low birth weight (LBW), neonatal death and maternal death (FMOH, 2002). The North Eastern region of Nigeria has one of the highest maternal mortality ratios (MMR) in the world, and most of these deaths are Preventable (Bukar et al., 2013)

Malaria remains a major environmental factor focusing on serious pregnancy complications, whose incidence and severity depend on gestational age, parity and the level of malaria endemicity. It is estimated that 10,000 women and 200,000 infants die as a result of malaria infection during pregnancy. Severe maternal anaemia, premature and low birth weight contributes to more than half of those deaths (Egwang, 2006). Malaria circulates within a complex social-ecological-epidemiological system, and multiple dynamic processes influence transmission risk, requiring careful examination of a diverse set of factors, such as LULC dynamics, mosquito life history and diversity, malaria epidemiology and human behaviour. For example, deforestation Tadel et al,(1998) and Vittor et al, (2006), proliferation of forest edges Overgaard et al, (2003), streams, rivers and standing water along forest margins Barros and Honorio,(2015) artificial reservoirs, such as watering holes and aquaculture ponds Maheu et al , (2010) and Monnerat et al, (2014) and forest-related activities such as hunting,

extraction of forest products (e.g. timber, fruits, medicinal plants), and shifting agriculture Valle et al, (2011), have all been blamed for increasing malaria transmission in the Amazon region. Deforestation, in particular, is a common theme in the literature examining the impact of environmental factors on malaria in the Amazon. Still, while some studies conclude that deforestation can reduce malaria transmission de Castro et al, (2006) and Moutinho et al, (2011), Malaria has generated a lot of health challenges nationwide. Despite efforts by individuals, government and non-governmental organizations (NGO) in curbing this menace, it still poses a lot of threat to the society. Hence this study seeks to look at the regional trends of malaria cases in some selected local government area in Adamawa State from 2008-2012.

2. Methodology

Study Area

The area of study is Adamawa State located in the North Eastern part to Nigeria, which was carved out of the former Gongola State on the 17th August 1991, with headquarters in Yola. It is bordered by Borno and Yobe State in the North, Gombe State in the West, Taraba State in the South and the Republic of Cameroun from the East (along Nigerian international border). It lies between latitude 8^o N and 11^o and longitude 11.5^o and 13.5^oE. It covers a land mass of 39,742.12 square Kilometres that is about 4.4% of the land area of Nigeria. It has a population of 3,168,101 based on the 2006 census. The state has 21 local Government areas and 50 State Development Areas (Adamawa State Government House Dairy, 2014).

Study Population and source of Data

The study population covers 584,980 people that included malaria cases in some selected Local Government Areas in Adamawa State. The study was based on secondary data which was extracted from Adamawa State Statistical Year Book 2012 for the period of 5 years from 2008-2012.

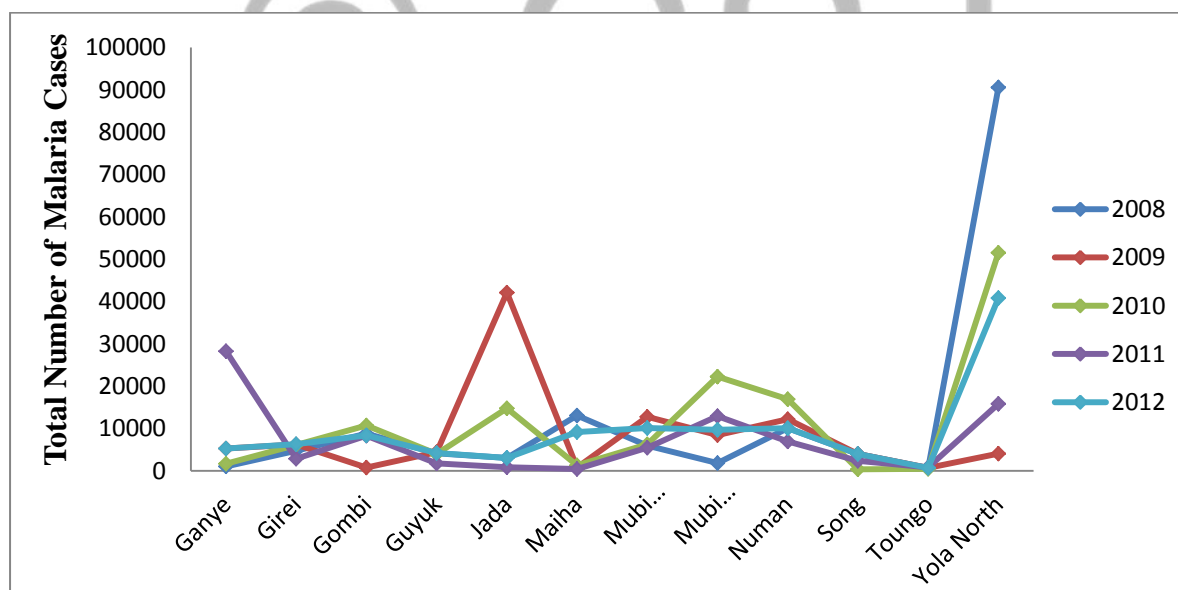
3. Discussion of Findings

Table 1. shows the number of malaria cases in some Selected Local Government Areas in the State

LGA	2008	2009	2010	2011	2012	Total
Ganye	1037	5268	1698	28259	5267	41529
Girei	4764	6220	6125	2849	6310	26268
Gombi	8787	795	10736	8323	8401	37042
Guyuk	4133	4418	3990	1782	4227	18550
Jada	3057	42118	14761	850	3057	63843
Maiha	13080	780	1297	450	9174	24781
Mubi North	5948	12785	6268	5471	10125	40597
Mubi South	1839	8457	22260	12926	9711	55193
Numan	10081	12214	16928	6949	10081	56253
Song	4004	3984	381	2372	4004	14745
Toungo	618	705	499	818	705	3345
Yola North	90580	4081	51529	15827	40817	202834
Total	147928	101825	136472	86876	111879	584980

Sources: Adamawa State Statistical Year Book 2012

Fig 1. Regional Trends of Malaria cases in Some Selected Local Government Area in the State between 2008-2012.



Source: researcher's computation

Figure 1 depicts the irregular pattern of malaria cases recorded under the study period (2008 - 2012). This study revealed that there was an unsteady trend of malaria cases within the period. Total malaria reported cases had generally decreased between the five years, 2008-2012. Yola North region recorded the highest reported malaria cases, followed by the Jada region, Ganye region, Mubi South region, Numan region, Maiha region, Mubi North region, Gombi region, Girei region, Song region, Guyuk region and Toungo region reporting the lowest malaria cases under the study period. These irregular patterns of malaria cases could

be attributed to unhygienic nature of most local government that are in the urban centres where dump sites are not regularly evacuated and poor drainage system that provide breeding spaces for mosquitos in the study area with higher prevalence as describe by Nkuo-Akenji et al, (2006) that Inhabitants of houses surrounded by bushes or garbage heaps and swamps or stagnant water showed higher malaria parasite prevalence and densities compared with those from cleaner surroundings while places like Toungo which has dense forest being close to Gashaka Gumti National Park that recorded lowest prevalence may be connected to the fact that areas with dense forest do not support breeding of mosquito because of the low temperature of such ecosystem as described by Joanna et al, (2017) that deforestation increases malaria risk.

4. Conclusion and Recommendation

The results of this study depict that during the last five years, an unstable trend incidence of malaria cases was observed in the study area. A decrease in the number of malaria cases occurred from 2008–2012 with a minimum number of malaria cases reported in 2011. However, the peak malaria case was observed during 2008. As malaria's incidence increases, so too will morbidity and mortality rates, the study therefore recommends that, there should be malaria control programs which will have a significant impact on the overall control of malaria in the regions and sanitation on malaria cases some of these selected local government area in the State.

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